Purpose of Study

The Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program is the federally mandated Medicaid program which provides preventive health care to children and adolescents under age 21. EPSDT care provides comprehensive, periodic evaluations of the enrollee's health, development, nutrition, vision, hearing and dental status. The goal of preventive health care is to recognize and treat health conditions that could have significant developmental consequences for children and adolescents. EPSDT guidelines were developed to define the scope of routine health care appropriate to children aged 0-21 years.

Study Population

The study population for this EPSDT focus area is subject to age and enrollment criteria as follows:

- Enrollees aged 0-21 before the end of the review period (12/31/2000).
- Twelve months of continuous enrollment in the same health care plan or FFS program during the review period (1/1/2000 – 12/31/2000).
- Enrollees must have incurred at least one office visit during the review period.

A random sample of 730 enrollees stratified by plan type and age group was abstracted to allow extrapolation of the study results to the entire Medicaid population in Michigan. Separate samples were drawn for all health care plans in aggregate and the Fee-for-Service population. The precision of results varies slightly for each indicator, although most are reported with a 10% error bound as described in the Introduction.

Study Questions

The EPSDT focus study is based on the following study questions:

1. What proportion of enrollees aged 0-2, 3-6, 7-12, and 13-21 received EPSDT components according to the periodicity table?
2. What proportion of enrollees received EPSDT procedures at recommended age-specific intervals? (Procedures include hemoglobin testing, lead testing, TB testing and urinalysis.)
3. What proportion of enrollees aged 0-2, 3-6, 7-12, and 13-21 received comprehensive EPSDT screenings during the review period?

Data Collection

The data for this study were collected from medical record abstraction and encounter/claims data provided to MPRO by MDCH. Encounter/claims data were used to supplement medical record abstraction. If record abstraction indicated that the child had not received required EPSDT components, the MDCH encounter database (populated by information provided by the health plans to MDCH) or FFS claims were queried. If the data indicated a specific EPSDT service was not provided, that medical record information was supplemented with encounter/claims data in determining whether an EPSDT component was provided.

Limitations

Many of the health indicators reviewed for this study are subject to the provider documenting the events of the health care visit. Poor documentation makes data abstraction difficult and the absence of documentation does not necessarily mean that assessment, intervention, or follow-up was not done. For example, if a provider completed an assessment or education during the office visit and did not document the events in the medical record, the EPSDT component could not be counted. This example is also true of lab procedures. If the provider orders a test and the results of a lab test are not documented in the medical record, the nurse abstractors would not consider the enrollee to have had the EPSDT component.

A second limitation to consider is the difficulty to obtain a complete medical record containing all of the care provided to the enrollee. Although an enrollee must be enrolled for 12 continuous months in a health plan or FFS to be eligible for this study, an enrollee could have received health care from several providers during the review period. In these cases, every attempt is made to obtain all medical record information for the study. All enrollees were included in the results if a minimum of one provider's medical record was received. It is possible that we may not have received all of the medical record health care information and thus our data source would be incomplete.

Beginning in 1987 the Michigan Public Health Act required sickle cell screening of all newborn infants. Since this testing is provided at the time of birth and may not have been documented in physician office records, sickle cell screening was not reviewed for this study. In addition, urinalysis screening was not reported for 2000 EQR. The necessity for routine urinalysis screening for children under age 2 is controversial and the American Academy of Pediatrics (AAP) does not recommend urine testing of children before the age of 5 years.

Results

Early and Periodic Screening, Diagnosis, and Treatment care includes a variety of services. These services include standard office practices such as measuring weight, height, and blood pressure. Interval history, physical examination, nutritional assessment and a number of tests such as tuberculin tests and blood lead levels are also included. This report section provides results of an EPSDT composite measurement derived from the indicators and provides results of all appropriate indicators for each age group. Descriptions of the indicators are included in Appendix A, for your reference. Indicator results for the EPSDT study are presented with separate rates for the health care plans and FFS.

Comprehensive EPSDT Services

A comprehensive EPSDT visit measure, as defined by CMS, was determined for the 2000 EQR EPSDT focus study. CMS defines EPSDT screening services as the following minimum set of activities: initial/interval history, unclothed physical examination, appropriate immunizations, laboratory tests, and health education.[1] MDCH refined their definition in order to address age-specific laboratory testing separately, and expanded the list to include measurements. The enrollee had to receive the following components to meet the definition of a comprehensive EPSDT service.

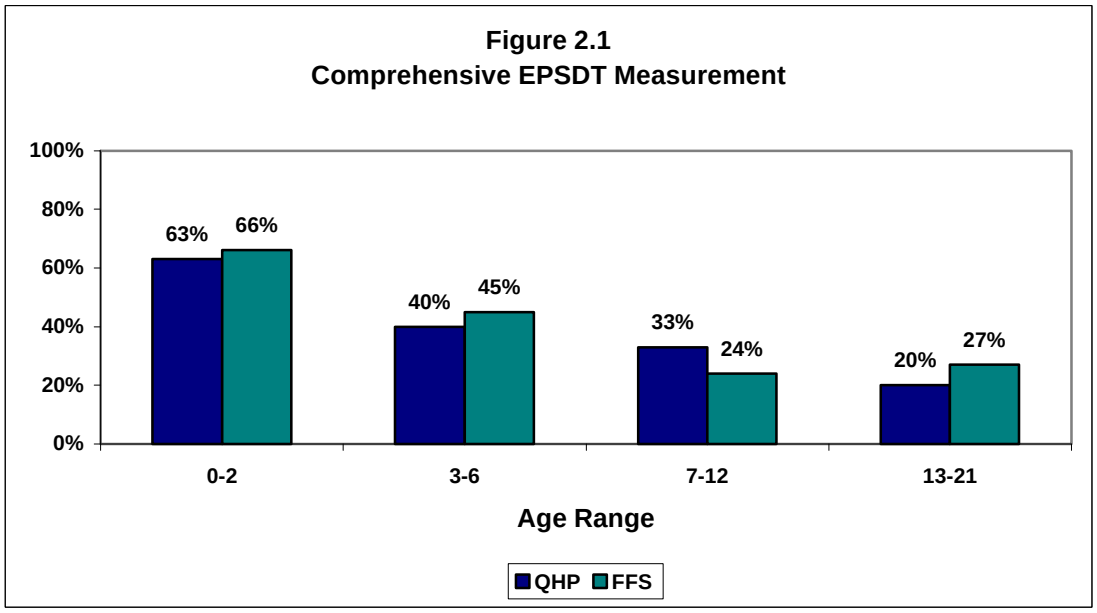
- **Physician examination**
- **Initial/interval history**
- **Immunization review**
- **Health education** - one or more of the following:
  - Developmental assessment
  - Anticipatory guidance
  - Interpretive conference
- **Measurement** of one or more of the following as age appropriate:
  - Height
  - Weight
  - Head circumference
  - Blood pressure

In addition, children should receive at least one of the following age appropriate tests: tuberculin test, blood lead level test, hemoglobin or hematocrits and urinalysis. The results for these tests are provided for each age group in Tables 2.1 through 2.4. Immunization rates for children 2 years of age are addressed in a separate section of the EQR report.

The rates for comprehensive EPSDT services for health care plan enrollees were highest for the 0-2 year olds at 63%. It should be noted that the frequency requirement of EPSDT visits decreases to every other year after the enrollee attains age 6. Since the indicator shown in Figure 2.1 measures visits performed on an annual basis, a decrease in EPSDT visit frequency is expected for enrollees

[1] HCFA, State Medicaid Manual Part 2-State Organization and General Administration.

aged 7-21. Figure 2.1 shows the results for the comprehensive EPSDT indicator for the health care plans.



The FFS rates for comprehensive EPSDT services ranged from 24% to 66% for the four age groups. The comprehensive EPSDT rates for the health care plan population are similar to the rates for the FFS population.

EPSDT Indicator Results

Health Plan Improvements:

- 100% of the enrollees aged 0-2 received at least one EPSDT component
- 100% of the enrollees aged 13-21 received at least one EPSDT component
- Initial/Interval histories increased from 76% to 90% for enrollees aged 0-2
- Initial/Interval histories increased from 58% to 77% for enrollees aged 7-12
- Physical examination rates increased from 45% to 71% for enrollees aged 7-12
- Nutritional assessments increased from 61% to 72% for enrollees aged 0-2
- Blood pressure screening rates increased from 56% to 66% for enrollees aged 7-12
- Urinalysis performance increased from 24% to 35% for enrollees aged 7-12
- Anticipatory Guidance rates increased from 27% to 41% for enrollees aged 7-12

Results for all of the EPSDT indicators are provided in the following four tables. The indicators are shown by the four different age strata for both the health care plan and FFS populations.

Table 2.1
EPSDT Indicators
Age Group: 0-2

Indicator	Health Plans		FFS	
	1999	2000	1999	2000
One or More EPSDT Services	100%	**100%**	98%	99%
Initial/interval History	76%	**90%**	78%	86%
Immunization Review	85%	81%	76%	86%
Height	83%	76%	69%	**85%**
Weight	97%	98%	84%	**96%**
Head Circumference	68%	67%	63%	**81%**
Blood Pressure	*	*	*	*
Vision Screening	49%	55%	45%	55%
Hearing Screening	49%	40%	45%	53%
Developmental Assessment	65%	63%	67%	72%
Physical Examination	70%	84%	60%	73%
Dental inspection	42%	49%	20%	37%
Hemoglobin/Hematocrit	41%	50%	25%	40%
Urinalysis	*	*	*	*
Nutritional Assessment	61%	**72%**	53%	**76%**
Blood Lead	27%	29%	16%	21%
Tuberculin	14%	18%	7%	12%
Anticipatory Guidance	55%	59%	44%	**68%**
Interpretive Conference	75%	71%	73%	84%

Rates in bold indicate the difference between the 1999 and 2000 rates was statistically significant.
*Indicator not applicable for age group.

Table 2.2
EPSDT Indicators
Age Group: 3-6

Indicator	Health Plans		FFS	
	1999	2000	1999	2000
One or More EPSDT Services	99%	99%	95%	99%
Initial/interval History	68%	72%	62%	**81%**
Immunization Review	71%	63%	47%	**65%**
Height	78%	73%	67%	80%
Weight	96%	92%	84%	**95%**
Head Circumference	*	*	*	*
Blood Pressure	58%	55%	52%	55%
Vision Screening	45%	47%	36%	52%
Hearing Screening	50%	42%	40%	51%
Developmental Assessment	47%	48%	45%	55%
Physical Examination	60%	69%	51%	**73%**
Dental inspection	34%	36%	27%	26%
Hemoglobin/Hematocrit	*	*	*	*
Urinalysis	27%	26%	22%	**41%**
Nutritional Assessment	41%	41%	36%	43%
Blood Lead	25%	33%	11%	22%
Tuberculin	23%	17%	7%	15%
Anticipatory Guidance	41%	38%	35%	40%
Interpretive Conference	65%	61%	56%	67%

Rates in bold indicate the difference between the 1999 and 2000 rates was statistically significant.
*Indicator not applicable for age group.

Table 2.3
EPSDT Indicators
Age Group: 7-12

Indicator	Health Plans		FFS	
	1999	2000	1999	2000
One or More EPSDT Services	99%	99%	100%	98%
Initial/interval History	58%	**77%**	59%	74%
Immunization Review	48%	51%	45%	45%
Height	66%	70%	66%	66%
Weight	93%	91%	82%	84%
Head Circumference	*	*	*	*
Blood Pressure	56%	**66%**	55%	59%
Vision Screening	37%	43%	32%	36%
Hearing Screening	49%	**29%**	46%	36%
Developmental Assessment	35%	44%	27%	41%
Physical Examination	45%	**71%**	39%	**56%**
Dental inspection	23%	31%	20%	14%
Hemoglobin/Hematocrit	*	*	*	*
Urinalysis	24%	**35%**	25%	28%
Nutritional Assessment	29%	34%	30%	33%
Blood Lead	*	*	*	*
Tuberculin	*	*	*	*
Anticipatory Guidance	27%	**41%**	20%	27%
Interpretive Conference	54%	62%	52%	61%

Rates in bold indicate the difference between the 1999 and 2000 rates was statistically significant.
*Indicator not applicable for age group.

Table 2.4
EPSDT Indicators
Age Group: 13-21

Indicator	Health Plans		FFS	
	1999	2000	1999	2000
One or More EPSDT Services	98%	**100%**	96%	100%
Initial/interval History	59%	64%	60%	**92%**
Immunization Review	36%	33%	38%	36%
Height	56%	49%	51%	64%
Weight	92%	93%	73%	87%
Head Circumference	*	*	*	*
Blood Pressure	76%	77%	69%	84%
Vision Screening	29%	22%	33%	36%
Hearing Screening	52%	**22%**	60%	47%
Developmental Assessment	30%	31%	42%	52%
Physical Examination	39%	48%	44%	60%
Dental inspection	18%	11%	13%	17%
Hemoglobin/Hematocrit	*	*	*	*
Urinalysis	31%	26%	29%	**48%**
Nutritional Assessment	22%	18%	16%	**36%**
Blood Lead	*	*	*	*
Tuberculin	*	*	*	*
Anticipatory Guidance	25%	28%	20%	33%
Interpretive Conference	51%	49%	51%	65%

Rates in bold indicate the difference between the 1999 and 2000 rates was statistically significant.
*Indicator not applicable for age group.

Discussion

EPSDT guidelines for care ensure that all elements of a child's health status are reviewed and evaluated on a routine basis. These guidelines are used as a framework to maintain the optimal health status of the child. Rates presented in this section note the achievement of the individual components in the periodicity table. The comprehensive EPSDT rates provide an assessment of overall EPSDT screening patterns within 4 age groups.

Many improvements were noted in the provision of EPSDT care in both the health care plan and FFS populations. In the health plan group, 9 health care indicators show a statistical improvement when compared to the 1999 EQR results, while one indicator, hearing, shows a decrease in both the 7-12 and 13-21 age strata. The rates for the remainder of the indicators measured were similar to the 1999 EQR results.

Overall, significant improvements were made in the health care plans' delivery of EPSDT services. Although improvements have been noted, there is a need to continue quality improvement activity in this area, as well as continuing to improve the delivery of EPSDT services to enrollees aged 0-21.